MD Evolution R8.1

Fall Product News

Communications systems

Built to drive businesses ahead

A communications system for small to medium-sized organizations

MD Evolution R8.1 — Communications systems built to drive businesses ahead

We are proud to launch the new Version 8.1 of the MD Evolution Communications System that focuses on the Small & Medium Enterprise (SME) markets. In building MD Evolution 8.1, we made sure that small and medium enterprises will be able to tap into even easier ways of operating, so that their resources will work as effectively as possible for them. This version enhances mainly the MD Evolution M/ Mi flexibility for introduction in new markets.

It offers the advantages of the MD Evolution version 8.0 introduced in November 2005, but has been enhanced to provide the following:

- **New PSTN accesses** provided by the new CTA board for analogue trunks and the new T1 ISDN protocol supported by the CAP2 board dedicated to North American markets. Both capabilities are offered on the MD Evolution M/Mi systems.
- **New power supply** and ringing generator gives full opportunities to introduce the MD Evolution M/Mi systems worldwide, including North American markets,
- **Additional enhancements** improve the IP solutions in terms of interoperability with third-party IP terminals, tuning the IP quality of service and tools for accurate diagnostic and maintenance.

General Availability is scheduled in October 2006 for MD Evolution 8.1.

Yours truly,

Lars Norman

Director Product Management
IP PBX & Mobility solutions

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1 Strategy & Policy

1.1 Strategy and Vision

Our products continue their strategic position as the communication platform of the future and leverage the opportunity to provide services beyond classic telephony – on IP and Mobility.

The underlying strategy is to use **converged architecture**. It allows making use of cost-efficient and effective synergies when converging voice, data and management services. The next step on the roadmap is the integration of the SIP world with the SIP Trunking and SIP Extension capability. **Mobility solutions**, to serve the increasingly mobile workforce, is the second cornerstone. They enable simple & secure access to value-adding services. WiFi solutions are on the roadmap.

Highly sophisticated functions serving numerous customers make only sense if **simplicity** is behind. Making our offering easy to use, but also to sell and deploy is a driver behind constant improvement. Considering our installed base we would like our customers to capitalize on their existing investments, therefore we always take **migration** into account. Being able to make use of existing equipment is a key to a long-term, mutual relationship with a satisfied customer.

Ericsson Enterprise's SME Strategy is to keep on providing solutions that enable small and medium enterprises to take their place in the mobile world.

1.2 Positioning

MD Evolution version 8.1 is the evolution of the successful MD Evolution communication system. More than 100,000 satisfied customers worldwide take benefit from MD Evolution and its numerous advantages. And this new version gives even more opportunities for introduction on new markets. Through its flexibility, no customer wish is impossible; MD Evolution has solutions in lots of areas, such as Mobility, Hospitality, Call Centers, etc.
All these solutions are designed to serve the needs of today's enterprises: communication efficiency to improve productivity, cost control, and enhancing customer service.
MD Evolution version 8.1 is yet another step in this evolution. Each and every new addition to the product capabilities has its own advantages and offers unique new opportunities, which are outlined in the remainder of this document. But to quickly grasp what MD Evolution version 8.1 has to offer in addition, the sales arguments can be summarized as follows:

- **Improve communication efficiency** and staff **productivity** through value-adding solutions such as Presence, Unified Messaging, and Group Collaboration -> realized through BackStage, integrated Unified Messaging, and integrated Computer Telephony server,
- **Mobilize your workforce** and cut costs through Mobile Extension and DECT solutions,

- **IP-enable** your customers and benefit from the advantages of a converged infrastructure, now available new IP terminals and new powerful IP boards,
- Deploy **cost-efficient** branch office solutions through the Enterprise Branch Node solution.

1.3 Phase Out / Life Cycle

MD Evolution version 8.1 is the new release that is fully replacing the MD Evolution Version 8.0C without need of new software license. The former Version 8.0/ 8.0C is still in passive sustaining.

Life Cycle for MD Evolution Version 8.1

1

Activity	Date
General Availability of Version 8.1	October, 2006 for MDE-M and MDE-XL
Order stop for new sales of Version 8.0	October, 2006
Order stop for add-on sales of Version 8.0	October, 2006
Passive support of Version 7.1 no longer available	October, 2006
Service not provided. Product Termination. Spare parts no longer made available. No support offered.	December, 2011

2 Marketing

2.1 Marketing Communication

2.1.1 Marketing material

Can be ordered in printed format from https://infochannel.ericsson.net/

Product Area	Name	Product Number	Description
Brochure	Communications systems built to drive business ahead	EN/LZT 102 3806 RC	A top-level product brochure for the no-technical reader. Highlights, Mobility, CTI Applications, Networking, and more.
Datasheets	MD Evolution Contact	EN/LZT 102 3520 RD	Presents the telephone answering facilities and call management
	Always providing a 5-star service	EN/LZT 102 3525 RD	Introduces the hospitality/ hotel solution offered in MD Evolution
	CTI Platform for MD Evolution	EN/LZT 102 3523 RC	Presents the CTI link, enabling integration of the office phone and IT system
	MD Evolution BackStage 8.0	EN/LZT 102 3493 RG	Describes how Backstage provides an efficient handling of calls and data integration
	Ericsson Mobile Extension	EN/LZT 102 3658 RE	Describes the Mobile Extension service
	General Characteristics	EN/LZT 102 3524 RE	Describes functionality per terminal
	Dialog 4000 Analog telephones	EN/LZT 102 3804 RC	Presents the Dialog 4000 Analog telephone family
	Dialog 4000 Digital telephones	EN/LZT 102 3643 RD	Presents the Dialog 4000 Digital telephone family
	Dialog 4000 IP telephones	EN/LZT 102 3741 RC	Presents the Dialog 4000 IP telephone family
	Ericsson DRG22i system	EN/LZT 102 3692 RH	Describes the device for connection of analog telephones / Fax to the LAN

2.1.2 Presentations

A presentation, including speaker script, is available in either PDF or PowerPoint format. Please see the Info Channel for a download of the presentation.

2.2 Localization

2.2.1 Localization Plan

The MD Evolution R8.0 components are localized as follows:

- Quick Reference Guides (QRG) and user's manuals
- Voice Prompts and system messages for integrated voicemail
- Graphical User Interface (GUI) for TLG Administration tool
- Marketing Communication material, i.e. brochure, datasheets, and presentation.

All deliverables are produced in US English as standard.

Countries	**Marcom material** Brochure Data Sheet Presentation	**QRG**	**GUI Administration**	**Dialog texts**	**Voice Prompts Voicemail**
Belgium	French English	French English Dutch	French English	French English Dutch	French English Dutch
Denmark	Danish	Danish	English	Danish	Danish
Norway	Norwegian	N/A	English	Norwegian	Norwegian
France	French	French	French	French	French
Portugal	English	English	English	Portuguese	Portuguese
Spain	English	Spanish	English	Spanish	Spanish
Sweden	Swedish	Swedish	English	Swedish	Swedish
UK/ US	English	English	English	English	English
Others	English	English	English	English	English

3 Pricing

Prices will be made available through the Partner Unit as per regular Pricing Routines.

4 Ordering

4.1 Forecast Model

Ericsson Enterprise Partner Units are responsible for collecting forecasts from Sales Partners within Enterprise. Sales Partners should submit a monthly forecast to the Partner Unit in accordance with instructions provided by each Partner Unit.

Rolling 12-month forecasts covering object level units are to be collected every month.
Today, there are about 40 forecast objects representing the majority of the Enterprise portfolio. The forecast object list is continuously updated in such a way as to cover most Enterprise sales while keeping the number of forecast objects at a minimum in order to reduce the administrative burden.
The forecast is either to be submitted to the Enterprise Partner Unit on a predefined Excel Spreadsheet or entered directly into the Enterprise Web-based forecasting tool (SPT). At each Partner Unit one person is responsible for handling the Sales Partner forecasts.

4.2 Ordering Routine

For further information, please refer to the ordering handbook. It describes the ordering process, associated key activities, and the requirements that must be met by Ericsson Enterprise AB and its Partners.

The Ordering Handbook is available from the Supply section of the Info Channel.

4.3 Ordering Information

Please refer to the separate MD Evolution 8.1 Ordering Information. All MD Evolution basic system packages are updated with the new version 8.1 and the relevant CPU board CPJ6/MPM2. The CIP packages include the Compact Flashcard 128 MB and the relevant XIP software 5.2.1. The reference of the system packages have not changed with the new version 8.1. The software license CPU 8.0 is always relevant with the new version 8.1 (no new software license). We only change the designation from R8.0 to R8.x.

Basic system packages MD Evolution M/ Mi:

FAPBS 101 130	Qty	Basic MD Evolution M R8.x
BDVBS 101 16/4	1	COF6/CCS4, Cabinet Mother Board CAM6+BAT+CCS4
KDUBS 130 27/64	1	ATA 64/128Mo flashcard with CPU + xMV SW R8.x

FALBS 102 68	1	License - M - R8.x SW
KDUBS 130 26	1	Documentation and administration tool R8.0 (CD-R)

FAPBS 101 134	**Qty**	**Basic Rack MD Evolution M R8.x**
BDVBS 101 17/4	1	RAC6/CCS4, Rack 19" + CPJ6 + CMI + CCS4
KDUBS 130 27/64	1	ATA 64/128Mo flashcard with CPU + xMV SW R8.x
FALBS 102 68	1	License - M - R8.x SW
KDUBS 130 26	1	Documentation and administration tool R8.0 (CD-R)

FAPBS 101 137		**Package CIP + Flash ATA128 R8.x**
ROFBS 197 98	1	CIP, VoIP 16 channels (wo Flashcard, wo license)
KDUBS 130 28/128	1	ATA 128Mo flashcard with xIP SW R8.x

The new boards for MD Evolution M/Mi are introduced with the version 8.1. And for remote administration, the ISDN modem Gazel (GA November 2006).

Product number	**Designation**
ROFBS 197 105	CTA, 4 analog trunk board
BMLBS 101 34/4S	CCS4-S, power supply 100-240V
FASBS 106 013	ISDN Adaptor Gazel 128 USB

Basic system packages MD Evolution XL/ Xli:

FAPBS 101 131	**Qty**	**Basic MD Evolution XL/MCS4 R8.x**
BDVBS 101 11/2	1	EAB2, Cabinet and Back Panel (EFP2)
ROFBS 197 86/2	1	MPM2, Central Processor Unit
BMLBS 101 37/4	1	MCS4, Power Supply (220V)
KDUBS 130 27/64	1	ATA 64/128Mo flashcard with CPU + xMV SW R8.x
FALBS 101 46	1	License - XL - R8.x SW
KDUBS 130 26	1	Documentation and administration tool R8.0 (CD-R)

FAPBS 101 132	**Qty**	**Basic MD Evolution XL/MCO4 R8.x**
BDVBS 101 11/2	1	EAB2, Cabinet and Back Panel (EFP2)
ROFBS 197 86/2	1	MPM2, Central Processor Unit
BMLBS 101 35/4	1	MCO4, Power supply (48V)
KDUBS 130 27/64	1	ATA 64/128Mo flashcard with CPU + xMV SW R8.x
FALBS 101 46	1	License - XL - R8.x SW
KDUBS 130 26	1	Documentation and administration tool R8.0 (CD-R)

FAPBS 101 133	**Qty**	**Basic Rack MD Evolution XL/MCS4 R8.x**
BDVBS 101 14	1	RAB2, Rack 19" and Back Panel (EFP2)
ROFBS 197 86/2	1	MPM2, Central Processor Unit
BMLBS 101 37/4	1	MCS4, Power Supply (220V)
KDUBS 130 27/64	1	ATA 64/128Mo flashcard with CPU + xMV SW R8.x
FALBS 101 46	1	License - XL - R8.x SW
KDUBS 130 26	1	Documentation and administration tool R8.0 (CD-R)

FAPBS 101 138	**Qty**	**Package EIP + Flash ATA128 R8.x**
ROFBS 197 99	1	EIP, VoIP 32 channels (wo Flashcard, wo license)
KDUBS 130 28/128	1	ATA 128Mo flashcard with xIP SW R8.x

The MD Evolution Version 8.1 requires the current MD Evolution CPU-SW license MDE 8.0 already available with the MD Evolution version 8.0A launched in November 2005. This license MDE 8.0 is now named License-XL-R8.x.

Licensing for the optional services DECT, Mobile Extension, IP Extension, IP Networking, IP Trunking and Unified Messaging, Extended Voice Server is unchanged. These optional licenses are not attached to the Central SW license, i.e. when they have been entered with old MD Evolution version they will be still valid with any further version such as Version 8.0.

4.4 Sales Tools

Amore and eShop are the tools available for ordering MD Evolution R8.1 products. Reference systems should be ordered via eShop.

FAPBS 101 143	Qty	Reference Partner package MD Evolution M R8.x - CIP
BDVBS 101 16/4	1	COF6/CCS4, Cabinet Mother Board CAM6+BAT+CCS4
ROFBS 197 61/2	1	CTS2, 2 BRI port board
ROFBS 197 67/2	1	CAP2, 1 PRI board
ROFBS 197 105	1	CTA, 4 analog trunk board
ROFBS 197 63/1	1	CD3, 4 digital extension board
ROFBS 197 62/3	1	CZI3, 4 analog extension board
ROFBS 197 98	1	CIP, VoIP 16 channels (wo Flashcard, wo license)
KDUBS 130 27/64	1	ATA 64/128Mo flashcard with CPU + xMV SW R8.x
KDUBS 130 28/128	1	ATA 128Mo flashcard with xIP SW R8.x
ROFBS 197 65/2	1	CRE2, Radio Exchange Board for 3 BS + B-ARI
FALBS 102 68	1	License - M - R8.x SW
FALBS 101 03/60	1	License - M - 11/60 cordless phones
FALBS 101 04/V	1	License - M - QSIG Private networking
FALBS 101 06	1	License - M - Expansion
FALBS 102 19/32	1	License - M - IP Trunking 1/32 channels
FALBS 102 56/128	1	License - M - Mobile Extension 3/128 users
FALBS 102 57/32	1	License - M - IP Extension/Networking 1/32 ch
FALBS 102 58/A	1	License - M - Unified Messaging all users
FALBS 102 67	1	License - M - Enhanced Voice Server
KDUBS 130 26	1	Documentation and administration tool R8.x (CD-R)

FAPBS 101 144	Qty	Reference Partner package MD Evolution XL R8.x - EIP
BDVBS 101 11/2	1	EAB2, Cabinet and Back Panel (EFP2)
ROFBS 197 86/2	1	MPM2, Central Processor Unit
ROFBS 197 94	1	MPP, 2 PRI board
ROFBS 197 73/S3	1	STS3, 2 BRI port board
ROFBS 197 71/5	1	MPB5, 8 analog extension board
ROFBS 197 84	1	MID, 8 digital extension board for Dialog
ROFBS 197 76/3	1	MRA3, 4 analog trunk board
ROFBS 197 99	1	EIP, VoIP 32 channels (wo Flashcard, wo license)
KDUBS 130 27/64	1	ATA 64/128Mo flashcard with CPU + xMV SW R8.x
KDUBS 130 28/128	1	ATA 128Mo flashcard with xIP SW R8.x
ROFBS 197 93/2	1	ERX2, Radio exchange board for 6 base stations + B-ARI
ROFBS 197 91	1	MRC, Radio communication module for 8 simultaneous calls
BMLBS 101 37/4	1	MCS4, Power Supply (220V)
FALBS 101 46	1	License - XL - R8.x SW
FALBS 101 11/V	1	License - XL - QSIG Private Networking
FALBS 101 14	1	License - XL - Expansion
FALBS 101 09/120	1	License - XL - DECT 11/120 cordless phones
FALBS 101 22/32	1	License - XL - IP Trunking 1/32 channels
FALBS 101 41/128	1	License - XL - Mobile Extension 3/128 users
FALBS 101 42/32	1	License - XL - IP Extension/Networking 1/32 ch
FALBS 101 43/A	1	License - XL - Unified Messaging all users
FALBS 101 45	1	License - XL - Enhanced Voice Server
KDUBS 130 26	1	Documentation and administration tool R8.x (CD-R)

5 Technical Description

The new functions in MD Evolution 8.1 cover the following areas:

- Analog trunks with the MD Evolution M/ Mi systems
- New CCS4-S power supply for MD evolution M/ Mi for all markets
- New ISDN PRA protocol T1 for the North America markets
- New services for MD Evolution M/Mi and XL/Xli

All these new products are available based on the new MDE version 8.1. This version can be supported by the following CPU boards:

- CPJ3G, CPJ4, CPJ5 and CPJ6 boards for the MD Evolution M/Mi systems,
- MPM and MPM2 boards for the MD Evolution XL/ Xli systems.

The associated SW for the optional boards are:

- SW version xMV 5.2.1-0xx for CMV, SMV, XMV
- and SW version xIP 5.2.1-0xx for the CIP and EIP boards

In the next sections the description of the new boards and services gives the specific compatibility and limitations according to the configuration of the installed system.

5.1 Analog trunks with CTA board for MD Evolution M/Mi

The new CTA board supports 4 analogue trunk ports. It requires the new MD Evolution version 8.1. Several applications require this new board:

- Some markets use the analogue trunk connections instead of the digital ISDN BRA and PRA due to lower tariffs, such as the US market.
- Some configurations still require leased lines (analogue trunk line - analogue extension line).
- The analogue trunk is required when the MD Evolution is connected to GSM gateway such as the Ericsson G36 product.
- The analogue trunk ports allow connections to triple-play boxes such as Free box or Live box on the French market.

CTA boards: role and functions

CTA boards provide the connection to the Central Office of the analogue PSTN.

CTA board provides 4 trunks with loop start support. Tone progress detection, battery reversal detection, decadic (pulse) (66ms / 33ms) or DTMF dialing are implemented on the CTA board.

Some other features are not available: tax pulse detection, system failure relay, direct incoming dialing. But the available DISA service is an alternative to DID.

The CTA board interfaces are designed to meet FCC, TBR21, and some specific country dependant standards (AC termination, DC characteristics, ring detect and frequency, among others), and fulfill requirements for safety, immunity, EMC according to EN55022 and EN55024, as well as FCC parts 15 and 68.

Protections against over voltage are included on the CTA boards. The CTA interfaces can pass UL1950 tests, as well as ITU_T K21 basic level. In case of strong environment, when it is required to fulfill K21 “enhanced level”, additional external protections (gas discharge) must be provided.

The CTA consumption is 0.5 W. The MTBF estimate of the CTA board is roughly 300000 hours.

Services available with the analogue trunks

Except the CLIP service on incoming calls, all other services are already available with other external lines.

For incoming calls:

- Welcome messages
- CLIP service. Caller ID detection is handled in FSK mode by four FSK modems located in the DSP on the CPJ6 board. “On Hook Caller ID” reception (i.e. during ringing phase) is implemented.
- DISA service

For outgoing calls:

- Toll restriction tables to enable/ disable external local/international calls
- LCR service
- Call forwarding to external telephone number
- Hot-line extension calling an external telephone number

For calls in progress:

- End-to-end dialing when calling an external device asking for DTMF codes
- Flashing to get external services provided either by the public exchange or by another PBX connected to the MD Evolution system
- Trunk-to-trunk connection when you want transferring an external call to another external call

Configuration of the analogue trunks

The parameters associated to the analogue trunk port TKA offer various configurations:

- Any TKA is part of an a trunk group: up to 8 trunk group. All personal TKA are part of the same trunk group.
- the TKA can support either general calls or dedicated to a defined internal extension (individual or group number)
- the TKA can be dedicated to incoming calls or outgoing calls or both types of way
- dialing can be either in DTMF or decadic mode (66ms/33ms)
- prefix to place outgoing calls programmable with 1 to 4 digits
- an incoming call on a personal TKA can be presented on the associated extension that is temporarily in call forward status. It can be programmed to enable/ disable call forwarding for these calls coming from this personal TKA.

Other parameters are more technical:

- TKA can be defined as long/short line for voice quality
- Transmission time is defined for DTMF sending
- Routing table defines the format of the digit sequence (ie tone detection, pause)
- More parameters required to define detection of the first and second tones during dialing out
- Battery reversal, if available, defines when the voice path is established and ended.
- When dialing out, one can defines the last digit (generally #) to make voice connection
- Power break, specific to some country, available
- TA+1 dialing out procedure available for some country
- Flashing duration

Some characteristics are set by software, depending on the “Country Parameter”. Among them: compression law, transmit/receive gains, impedance, ringing detection threshold, DC current versus voltage curve selection (FCC part 68 or TBR21).

Installation of the CTA Boards

The CTA boards do not require any special settings upon their commissioning.

Up to 8 CTA boards may be plugged into the connectors P1 to P7, as well as into P8 (CAP connector) provided from the CPJ6 system basic board. CTA boards do not require the software protection license "Expansion license" associated to the "BOARD EXT." when plugged in the P3 to P8 connectors.

CTA Boards cabling. Connecting each PSTN line on to the CTA Board is achieved using a single pair cable. This cable must be terminated with a HE14 type 4-pin female connector on the CTA side (only two pins are connected). Female connectors are provided with the basic system.

CTA compatibility with the installed base

The MD Evolution M/Mi system shall be equipped with the CPU board CPJ3G, CPJ4, CPJ5 or CPJ6 and supporting the MDE 8.1 software or later. The CPU DSP firmware requires an updating to get the CLIP service on the analogue trunks. Refer section "Software deliverable" for available DSP versions.

The CTA board can be plugged in any slot of the system. It does not require the Expansion software license.

Migration from a MDE-M/Mi system equipped with an analogue trunk to a MDE-XL/Xli system. What are the differences in terms of services available on the analogue trunk?

- the CLIP service on analogue trunk is available on the MDE-M/Mi, and not on the MDE-XL/Xli
- The service "selective trunk" is available on the MDE-XL/Xli and not on the MDE-M/Mi systems.
- All the other parameters for the analogue trunk and for the trunk group are the same in both systems.

5.2 New CCS4-S power supply for MD Evolution M/Mi

CCS4-S Board Role and Functions

The new power supply CCS4-S is used to directly power the MDE-M/Mi system from a **100-240 Volts, 50-60 Hz mains source** which can be **possibly backed-up from a battery** that, according to its capacity and the system cabinet type, can be either integrated into the system cabinet or be externally installed.

The CCS4-S is delivered with the European mains power cable. Two specific cables can be ordered separately: one for the UK market and one for the North American markets.

From the mains source (tolerances 90 - 265 Volts, 42 - 68 Hz), which input is protected by fuses, CCS4-S board delivers all secondary voltages needed to supply the system boards (+ 5 VDC, + 3 VDC and - 5 VDC voltages), as well as the -40 VDC voltage to remotely powering all DIALOG 3000 or DIALOG 4000 digital stations, analogue phones and ISDN-S0 buses connected to the system. CCS4-S board also supplies the 63 Veff – 20/25/50 Hz ringing voltage for the analogue sets.

The CCS4-S board provides the -40 Volts source required for remotely power feeding the radio DECT base stations connected through the system CRE2 and CRO boards.

Voltages	CCS4-S Power	
+ 5 Volts DC	4.5 A	) 4.5 A
+ 3 Volts DC	1.5 A	) Cumulated
- 5 Volts DC	0.3 A	
- 40 Volts DC	2 A	
63 Veff – 20/25/50 Hz (+15Vdc-15 mA)	0.75 A	selection of the ringing frequency done by switch

Finally, when an internal or external back-up battery is installed, CCS4-S also provides, in parallel to the system consumption, the current required to permanently load and, when necessary, recharge the back-up battery that is then mounted in parallel.

CCS4-S board is sized to meet the **maximum consumption** of a MD Evolution M/ MD Evolution Mi/ EBN system which is about some 100 Watts. The CCS4-S board has a MTBF greater than 200,000 hours.

The above voltage dimensioning satisfies all maximal configurations of a system, whether it is only equipped with wired stations, or DECT wireless base stations. The rating makes it capable to additionally support the consumption of all 8 radio base stations that can be connected to the system. And CCS4-S board allows to simultaneously ring up to 9 analog stations.

CCS4-S description

CCS4-S uses a natural convection for cooling purposes. In the MD Evolution Mi 19-inch rack, an external fan, part of the cabinet, is connected to CCS4-S.

Optional back-up battery

A back-up battery is not strictly required for the correct operation of the system. It is however recommended in order to ensure a given system operating autonomy in case of a mains failure; especially should the mains source not fully reliable. Upon a mains failure, when the system is fed from the internal or external back-up battery, when installed, complete system operation autonomy is ensure, including ringing generator.

In practice, the MD Evolution M/ EBN (wall mounted) basic system cabinet supply includes a 12 V / 7 Ah battery of a sealed lead-acid type (type YUASA NP 7-12 or equivalent), that is intended to be directly mounted inside the system cabinet. In case of mains failure, depending on the hardware system configuration, the battery provides a system operating **autonomy** from **0.5 to 2 hours.**

Alternatively, a greater capacity **12 V / 12 Ah or 24 Ah battery** of a sealed lead-acid type (type YUASA NPL 12-12 or YUASA NPL 24-12 respectively), not supplied, may be installed **externally** to the system cabinet to ensure longer system autonomy in case of a mains failure.

For the MD Evolution Mi/ EBN (rack version) any 12V battery may be installed externally to the system cabinet.

CCS4-S Settings

The only setting allows selection of the ringing frequency for the analogue stations: 20, 25 or 50Hz. A switch, on the left side of the CCS4-S board is accessible when the system cabinet is open.

CCS4-S cabling

The CCS4-S board is connected to the CPJ5/CPJ6 board through a power supply flat cable, **provided**.

The CCS4-S board is connected to the 230 Volts - 50 Hz mains source using a 3-wire 230 Volts + Ground power supply cord, which is 3 meters long. Three types of power cord are available (please check the Ordering Information whether the correct power cord is included in the ordered system package):

- one compliant to EU standards (always provided with the CCS4-S),
- one compliant to GB standards,
- and one compliant with USA and Canada standards.

The CCS4-S board can be also connected to the optional back-up battery:

- For connection of the 12 V - 7 Ah internal battery (MD Evolution M/ EBN wall mounted version), the two battery power wires are **provided** and directly connected to CCS4-S board.
- For connection of an external battery, the above power wires may be replaced by longer (maximum: 2 meters) 2.5 mm^2 cross section power wires, **not provided**.

5.3 New ISDN PRA protocols T1 for North American markets

This enhancement applies only to MD Evolution M/Mi systems.

Previously the MD Evolution was only supporting the ISDN PRA signaling compliant with the European standard ETS 300 403-1. In Europe, it is the **E1** interface that has 32 time slots (2 Mbits/s). Voice codec is in A-law.

With the new version MDE 8.1 supported by the CAP2 board, the North American ISDN standards are now supported. It is the Primary Rate Access PRA called **T1** that has **23 B** + **1 D** channels (1.5 Mbits/s). Voice codec is in µ-law.

Compliance with US and Canada ISDN protocols:

- National ISDN 2 or **NI-2** (document SR-NWT-002120). The last version is called National ISDN 2000 (document SR-4994)
- Lucent DMS 100 or **DMS100** (document NIS A211-1)

Note the old ISDN protocol 5ESS (document TR41459) is not supported.

T1 implementation

The T1 service is only available on the MD Evolution M/Mi/EBN systems, not on the MD Evolution XL/Xli systems.

The MDE-M/Mi system accepts only one CAP2 board that has one ISDN T1/E1 port. The CAP2 board is plugged in the slot 8. No settings on this board. New parameters are introduced in the MDE database. This involves a new format of the database with the new version MDE 8.1; then when upgrading an installed MD-M system, it requires the conversion of the database to the new format. Refer to the software downloading procedures.

Channel administration
- The range of channels in use can be defined by their number (1-24 or 1-32)
- When setting a call, the system can ask for preferred/ exclusive channel to be used
- Selection of channel done according to the algorithm "High-High" or "Low-Low"
- T1 protocol requirements state that channels are set “out-of-service” only by the public network (Therefore, there is no possibility to set this with the TLG tool)
- to avoid collision between incoming and outgoing calls, the system selects a free channel according to the parameter that dedicates the channel to incoming/outgoing/ both-way call.

En-bloc dialing is required with the two US protocols.
Dialing and call routing are adapted to start dialing on the network after the end of dialing by the caller. Thus the system should know when the caller dials the last digit. Three criteria are available:

- Inter-digit timeout,
- Defined character at the end of dialing (generally "#"),
- Or the number of dialed digits is greater than the defined maximum number of dialed digits.

Then a manual dialing requires the last character ("#") to avoid waiting the timeout elapses. Other services also require this character when programming them:

- Call forwarding to an external telephone number,

- Abbreviated number associated with an complete external number,
- Contact/ repertory key associated with an external telephone number,
- But the recall service does not require any change.

5.4 Enhancements of the voicemail

Voicemail of guest room in Hotel configuration

When checking-out, the mailbox associated with the guest room is fully re-initialized, i.e. all voice messages saved in the mailbox are fully deleted. This service is available with the version MDE 8.1 and version 8.0C in last releases (C117, XMV5.1.1, XIP5.1.1 or later).

Customization of the greeting message or mailbox

The version MDE 8.1 offers a new way for customization of the greeting message played when accessing the end-user mailbox. The end-user or administrator of the MD Evolution system will use on their PC the web browser to access the MD Evolution voice server. Three possibilities are available for customization of greeting voice messages:

- The MDE administrator uses the FTP for uploading a list of pre-recorded sound files to the MD Evolution system. Each file is a personalized greeting message for one or more user's mailbox. Based on the name of an uploaded file, it can either be set immediately as greeting message, or is simply stored in the user voice mailbox. Then the user will select the file later on as greeting message. See description below.

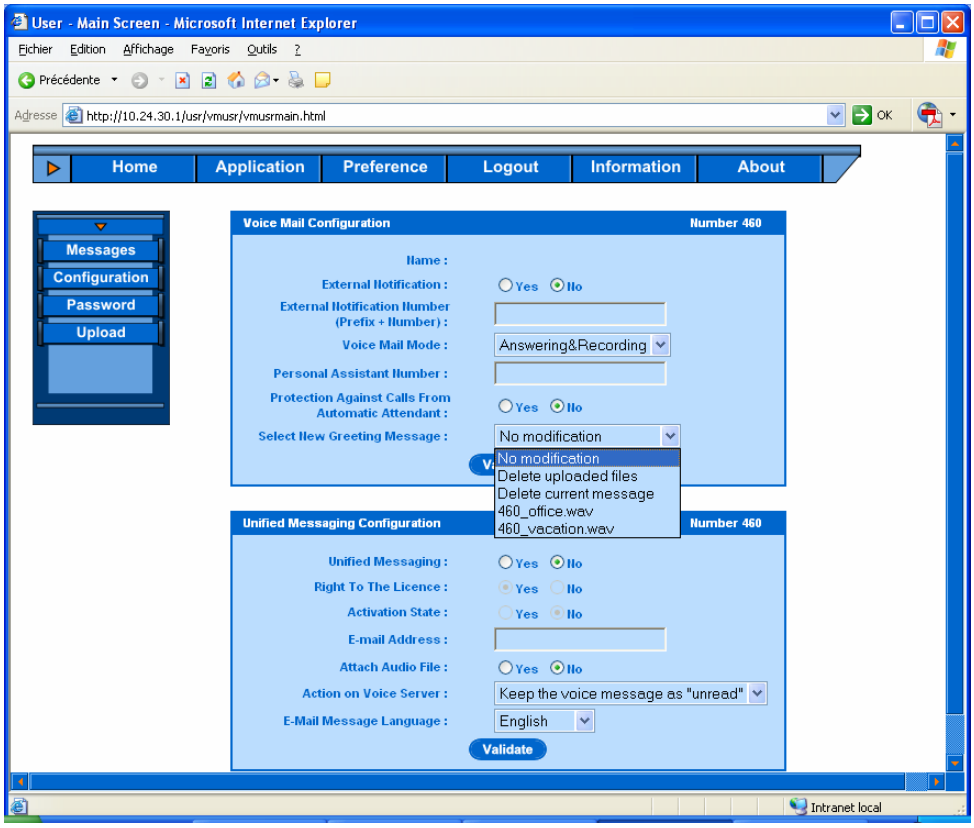
- Each end-user can use the web browser to select one of the sound files and upload the file in his voice mailbox as personal greeting message.

- The end-user can also select a pre-recorded sound file stored on his PC and upload the selected file to his own mailbox. The uploaded file is then set immediately as his greeting message.

Note. When a call cannot be presented to a busy called party, the call is routed to the called mailbox. Then the caller will first receive a busy message "your called party is busy" and afterwards the greeting message will be played.

Selection of a loaded sound file as greeting message

A user of the MD Evolution voice server can use a web browser to connect to the MD Evolution user web interface, to select one of the uploaded files to use as his greeting message:



The user select the function in the "Voice mailbox configuration" menu available via the web browser connected to the voice mail.

- Select greeting message: if sound files are already uploaded (by the system administrator) into the user's voice mailbox, one of the uploaded files, which are named **xxxx[_yyyy].wav**, as described in the previous section, can be selected by the user, and set immediately as the greeting message.
- Delete greeting message: this service allows deleting the greeting message in use for the user's voice mailbox.
- Delete uploaded files: this service allows deleting all the uploaded files stored in the user's voice mailbox.

5.5 Administration MDE 8.1

5.5.1 Administration enhancements

Programmable list of codecs

Up to now, the H.323 codecs list is defined in a static way inside MDE H.323 software:

- Choice 1 = G.729AB (silence suppression)
- Choice 2 = G.729A (no silence suppression)
- Choice 3 = G.729B (silence suppression – idem G.729AB)
- Choice 4 = G.729 (no silence suppression – idem G.729A)
- Choice 5 = G.723 (6.3 kbits/s)
- Choice 6 = G.711A (64 kbits/s, A-law)

To avoid problems when inter working with some H.323 terminals (for instance, DRG22i terminal), the release R8.1 allows redefinition of the H.323 codecs list using administration tools. The order of the codecs may be changed. Some codecs may be missing. Control is done by administration toll in order to avoid multiple occurrences of the same codec. A new codec is added: G.711U (64kbit/s) for North American markets.

For information, codecs used by H.323 endpoints handled by MDE are:

- Ericsson IP phones D442x: G.711A, G.711U, G.729A, G.729AB and G.723.
- DRG22i: G.711A, G.711U, G.729, T.38 fax
- MD110: G.729AB, G.729B, G.729A, G.729, G.723, GSM, G.728, G.711A 56 kbits/s, G.711U 56 kbits/s, G.711A 64 kbits/s, G.711U 64 kbits/s

New commands for diagnostics & maintenance

The new tool allows making Ethernet traces, saving them in files on the Flashcard and retrieving them in remote administration. This gives a powerful tool for diagnostic and maintenance. Two new commands are available:

- One for recording of traces in a file
- Another one to get Ethernet integrated trace

New localization procedure for MD Evolution / EBN

Coming from the factory, the system is loaded with the latest stable CPU release and with a DSP software for France with French announcements. For adapting the MD Evolution/ EBN system to the country specificities, it is necessary to :

1. Load the DSP software adapted to the language and country of destination,

2. Re-initialize the Database to default values adapted to this new country.

This could be automatically done using a **country specific Compact Flashcard**.

The procedure for updating the local system with this dedicated country Flashcard is as follows:

- **Plug the country specific Flashcard** in the system in place of the normal one. **Switch** the system **on**. Check that the system is running the software from the Compact Flashcard (**DS3 led** must be fixed switched **on**).
- If ***yes***, don't touch the system until the end of the localization.
- If ***not***, **wait** for DS2 green led to switch from slow blinking (200 ms/800 ms) to a regular one (500 ms/500 ms) **and then press on S2** button to switch from resident memory to Flashcard. The system is restarting (DS3 green led must be fixed switched on). Don't touch the system until the end of the localization.
- During localization (**DSP software update and database re-initialization**), DS1 red led is blinking. The system is up running before the complete DSP download (normal green blinking of DS2 but still DS1 red led blinking) but tones are not available.
- When the system is **back to normal operation**: DS2 green led is blinking at 'normal operation' rhythm 500ms/500ms and DS1 stop to blink unless an alarm is detected, you can **switch** it **off** and **replace the Flashcard** by a standard one.

5.5.2 New deliverable administration tools

New MDE administration tools are introduced with the new version 8.1:

- The tool SCR8.10 has been updated with the introduction of new parameters. The database format between version 8.0 and 8.1 is changed. Then this new SCR8.10 is required for updating or upgrading an installed system.

- The tool TLG8.10 covers all new parameters with version 8.1. As previously, the TLG8.10 can also manage all previous MDE versions. All procedures for upgrading CPU software and XMV/XIP software are unchanged. Refer to the two documents "Upgrades procedures" and "general procedures" in the MDE Administration CD-ROM.

  The new version 8.1 consists of several software packages available on the Ericsson web sites:

- The CPU software V8.1 is identified by the release number D0xx (for instance D006 or later). The previous software V8.0C was identified by the release Cxxx (for instance C128). The CPU software license applies to both MDE V8.0A , V8.0C and V8.1. The consequence is that updating of an installed version 8.0A/8.0C is now done with release D0xx. The new CPU software V8.1 includes all XMV functions. And voice server and IP gatekeeper can co-exist.

- The new software XMV5.2.1 is supported by the CMV/SMV/EMV boards. Associated wizard is available with XMV5.2.1 for upgrading.

- The new software XIP5.2.1 is supported by the new boards CIP/EIP. Identification of software XMV5.2.1 and XIP5.2.1 are different due to the Compact Flash cards that are different for CMV/SMV/EMV and CIP/EIP boards.

- No new version of the CTI-Link server, when supported by a PC. The CTI-Link server is in version 1.0.009 and the CTI-Link client in version 1.0.011. The old CD-ROM media kit CTI-Link is no more for sales. The software is available on the Ericsson web sites.

5.6 HW and SW compatibilities

This section describes the required hardware and software for introducing a new V8.1 service on an installed system. Refer the various compatibility tables updated in version 8.1 in the MDE Administration CD-ROM8.1.

5.6.1 Hardware issue with new version 8.1

The version 8.1 includes all xMV optional services, the same available with software XMV5.2.1/ XIP5.2.1. The version 8.1 can be implemented on any installed system already in versions 7.0/7.1/8.0A/8.0C without hardware change. Nevertheless service dimensioning can require new boards: either line boards or CMV/SMV/EMV board. Afterwards verify the required protection software licenses.

The installed system is in version <8.1 and a new V8.1 service shall be implemented:

- Read first the description of the new service that includes the pre-requisites: hardware, software and, if required, software licenses.
- Then refer to the compatibility tables to check hardware and software compatibility with version V8. and xMV5.2.1. This is what is described hereafter.

5.6.2 Upgrading the CPU hardware and software with V8.1

Follow the described steps with the compatibility tables:

- Select the table “Hardware compatibilities according to software versions” for the installed system: MDE-M, MDE-XL or MD34/MD35/MD36. Enter the last line version R8.1 and read the compatibility with the CPU installed board. When not compatible (ex: CPJ3 R-state<G) the CPU board shall be changed. Then verify that version 8.1 is compatible with all installed boards (version 8.1 knows the boards by their signature).
- The CPU board shall be changed. Then verify that CPJ6/MPM2 is compatible with the installed backplane and power supply. Refer to table “Hardware compatibilities according to CPU configuration”. For MDE-XL, MPM2 is not compatible with backplanes SFP/MFP/MFE. For MDE-M CPJ6 is delivered with the cabinet (no problem of backplane) but verify the power supply (CPJ6 is not compatible with CCS1/CCS2).

Then verify the CPU compatibility with the other installed boards.

- The CPU is changed. CPJ6/MPM2 could be not compatible with some installed boards. Example: CPJ6 is not compatible with CAP (CAP2 shall be used); but CPJ6 is compatible with CZI.
- Whatever the CPU board is, verify the firmware on the installed boards to offer the required new service. Example: the CLIP service requires a firmware upgrading

on the xPB2/3/4/5 boards. Again read the pre-requisites in the service description.

Case of CMV/SMV/EMV board. Verify the Flashcard capacity according to the xMV services in use. Refer to table “Flash cards compatibilities according to xMV software versions”. We recommend always upgrading at the last version xMV5.2.1 or higher.

5.6.3 Upgrading the xMV software

Two cases:

Upgrading required by software corrections. Refer to table “Compatibilities of xMV software according to CPU software versions”. Example: an installed site in version 5.0 cannot be upgraded in xMV 5.1.0. Or the installed site is already in V8.0; then update to the last available release xMV5.2.1. Or IP phones D4422/D4425 shall be upgraded: their software is downloaded from the xMV version when the IP phones are connected.

Upgrading required for a new service implementation. Refer table “Compatibilities of xMV services according to software versions”. Enter with the service name. It gives the last available CPU and xMV software versions. Check also the Flashcard capacity with table “Flashcard compatibilities according to xMV software versions”..

5.6.4 Upgrading the software licenses

Enter first the SW-CPU V8.0 license into the system. This license applies also with software V8.1. Note that as usual the license allows running the version 8.1 or any previous CPU version <8.0. Example: an installed system is running with version 7.0 and software license is SW-CPU 8.0.

All optional licenses already installed are still valid when upgrading the software license in SW-CPU 8.0C. When the CPU board is changed, enter the passwords of these licenses after verifying the dongle CKMx/ EKMx.

Installing more line boards or increasing the users of a service involves new system dimensioning, i.e. allows more capacity by license. Then verify if the Expansion license for board capacity or the extended service licenses are required.

6 Legal Requirements

6.1 Field Trial

Field trials were conducted in Belgium, France, Norway, Sweden, Portugal and US. These markets are automatically Market Validated.

6.2 Product Approval

Version 8.1 of MD Evolution M/Mi and MD Evolution XL/XLi is compliant with the R&TTE (1999/5/EEC, Radio and Telecommunication Terminal Equipment Directive).

The SDoC (Supplier's Declaration of Conformity) will be part of the product approval documentation (technical file) and a reference to it will be found in the product documentation. The SDoC is valid for all EU and EFTA countries. It is also valid for North American markets for MD Evolution M/Mi systems. It will be available on the Ericsson Enterprise Website:
http://www.ericsson.com/enterprise/library/sdoc.shtml

No Product Service Approval is required for the MD Evolution 8.1: this version is just an enhancement of MD Evolution version 8.0 launched in November 2005 using the same administration procedures.

7 Education

7.1 Technical Courses

MD Evolution 8.x News LZU 102 1479
This two days course is a new course explaining all new features and functions of MD Evolution V8.0. To attend this course MD Evolution V7.1 pre-knowledge is required. Please see below for a detailed list of the course content:

- The IP Networking solution
- Least Cost Routing principles
- Networking administration
- IP Telephony enhancement
- Vocal server : communication recorder
- Upgrading an installed base

If the engineer has no pre-knowledge about MD Evolution, the two following courses are highly recommended:

MD Evolution 8.x Level 1 LZU 102 1605
This five days course is targeted at people, who haven't worked with MD Evolution before and want to look into the technical details. The course contains all new MD Evolution 8.0 features and functions applicable for the Core 1 course. After the course each participant should know how to install the system, set the system into operation and find basic faults.

MD Evolution 8.x Level 2 LZU 102 1606
This two days course is mainly targeted at service technicians whose job is the installation and configuration of value added integrated applications in MD Evolution as well as maintenance. The Core 2 course is the 2nd part of the basic training and therefore mandatory for people who are willing to gain advanced know how on the system and want more detailed knowledge for maintenance, faultfinding and fault reporting.

MD Evolution 8.x Networking Configuration and Settings LZU 102 1607
This two days course is highly recommended for service technicians who will install and configure the PABX inside a PBXs Network either through leased line using the QSIG protocol or through a LAN or a WAN using the IP Networking solution of MD Evolution. This course contains all new features and functions applicable in V8.0 for the networking area.

MD Evolution CT + Backstage 8.0 LZU 102 1435
MD Evolution Computer Telephony + BackStage 8.0 training is a course for technicians, who will install and configure the Ericsson application Backstage with MD Evolution V8.0. The purpose of this training is to provide all required information about the latest version 8.0 of BackStage. The related MD Evolution Computer Telephony platform CTI Link for Windows is covered.

Enterprise Branch Node I&M LZU 102 1530
Enterprise Branch Node (EBN) I&M training is a 5 days course for those who will install, configure and maintain the EBN. The course provides all the competences required to install the system in a branch office normal mode but also in an isolated mode in case a remote site survivability solution is required.
After the course each participant should know how to set the system into operation in a normal branch office scenario, set the system up and running in an isolated mode in case of survivability scenario and find basic faults. This course introduces as well some value added applications mandatory for people willing to gain advanced know how on the system installed as an independent SME PBX platform.

7.2 Sales Course

Web-based Sales course LZU 102 1604 comprises a basic overview of MD Evolution, its features, and benefits.

Availability

The sales course, a course description, and course schedules are available at: http://ericsson.tripnet.se/learngate/portal/index2.jsp

For no-learning gate users the course descriptions and course schedules can also be viewed on the following home page:
http://www.ericsson.com/enterprise/education/portfolio_date.shtml

8 Service

8.1 Technical Support

Ericsson Enterprise provides the following support services for Service Partners:

- Remote assistance
- On-site Assistance
- Field trials
- Audits

  Technical Support
- Technical assistance is performed by MCS.
  (Mobility Communication System, i.e. a Metrix queue)
- Engineers are based in France
- Language is English

8.2 Service Partner

8.2.1 One-Tier Model

One-Tier Model personnel are to use Metrix to elevate their issues to our technical support level. They have a password that can be used to call the Support Center in an emergency.

8.2.2 Two-Tier Model

In accordance with directions issued by the Service Partner, Two-Tier Model personnel have to go through the one-tier personnel in case of emergency or for product-related issues.

9 Pre-Sales Business Support

9.1 Tools and Services

When you need support, the first place you should look is on the Info Channel where you will find most of the pre-sales information you need.

Commercial Helpdesk (CHD)

The Commercial Helpdesk is a service to which you can turn when you need additional pre-sales information that you can't find on the Info Channel. For more complex solution design matters, we suggest you contact your local pre-sales & solution design team.

The Commercial Helpdesk also serves as an interface via which you can get answers to any questions you may have about matters such as accessing and using our sales application – Amore.

You can reach the CHD service via the Commercial Helpdesk link in the top Info Channel toolbar.

10 Contact List and Support

Please contact the following sales manager for more information.

Contact Person: Mr. Fredrik Johansson
Phone: +46 8 568 67052

Fax: +46 8 7196400

E-mail: Fredrik.ebc.johansson@ericsson.com

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